WE CLAIM:

1. A packet services node within a telecommunications network, comprising:

a logical master communications node associated with a service provider and capable of being dynamically configured in a customized manner by the service provider; and

common resources, a portion of said common resources being dedicated to said logical communications node and capable of being configured by the service provider.

2. The packet services node of Claim 1, wherein the portion of said common resources is capable of being dynamically and customarily reconfigured and allocated to said logical communications node.

3. The packet services node of Claim 1, wherein said common resources include switch fabric.

4. The packet services node of Claim 1, wherein said common resources include a line board.

5. The packet services node of Claim 1, wherein the line board includes optical and electrical signal processing and handling components, optical and electrical signal processing and the handling component including at least one of such as transceivers optical splitters, optical/electrical converters, optical delays, electronic controllers, wavelength converters, and a high speed optical/electrical switching element

6. The packet services node of Claim 1, wherein said common resources include traffic processor boards.

7. The packet services node of Claim 1, wherein said common resources include software resources

8. The packet services node of Claim 1, further comprising:

an additional logical communications node associated with an additional service provider, said additional logical communications node being capable of being dynamically configured in a customized manner by the additional service provider; and

an additional portion of said common resources dedicated to said additional logical communications node and capable of being configured by the additional service provider.

9. The packet services node of Claim 6, further comprising:

a firewall providing private and secure separation between said logical communications node and said additional logical communications node.

10. The packet services node of Claim 6, wherein said additional logical communications node is a master communications node and the additional service provider is an operator of the packet services node, the master communications node being configured to manage and allocate said common resources to said logical communications node.

11. The packet services node of Claim 1, wherein the packet services node is an internet protocol (IP)-based router or switch, optical switch with IP awareness or a voice softswitch.

12. The packet services node of Claim 11, wherein said logical communications node operates as a separate packet services node.

13. A system for sharing and optimizing resources between service providers within a telecommunications network, comprising:

a first service provider capable of providing telecommunications services to end users; and

a unified and integrated switch within the telecommunications network and having a physical interface to said first service provider, said unified and integrated switch including a first logical communications node associated with said first service provider, said first logical communications node having a first portion of common resources dedicated thereto, the first portion of the common resources being configured by said first service provider.

14. The system of Claim 13, wherein the first portion of the common resources is dynamically and customarily reconfigured and allocated to the first logical communications node by said first service provider.

15. The system of Claim 13, further comprising:

a second service provider, said unified and integrated switch including a second logical communications node associated with said second service provider, the second logical communications node having a second portion of the common resources dedicated thereto that is configured by said second service provider.

16. The system of Claim 15, wherein the second logical communications node is a master communications node and said second service provider is an operator of said unified and integrated switch, said master communications node being configured to manage and allocate the common resources to the first logical communications node.

17. The system of Claim 16, wherein the master communications node is connected to additional master communications nodes on respective additional unified and integrated switches on the telecommunications network.

18. The system of Claim 15, wherein said unified and integrated switch further includes a logical interface between the first logical communications node and the second logical communications node.

19. A method for sharing and optimizing resources of a packet services node within a telecommunications network between service providers, comprising:

receiving a service request from a service provider, said service request including configuration information for a logical communications node associated with the service provider within the packet services node;

allocating a portion of common resources within the packet services node to the logical communications node;

configuring the portion of the common resources allocated to the logical communications node using the configuration information; and

providing a service to the service provider using the logical communications node within the packet services node.

20. The method of Claim 19, wherein said receiving further comprises:

receiving a service request to establish the logical communications node associated with the service provider within the packet services node.

21. The method of Claim 19, wherein said receiving further comprises:

receiving a service request to establish a new service for the logical communications node associated with the service provider within the packet services node.

22. The method of Claim 19, wherein said allocating and said configuring are performed statically.

23. The method of Claim 19, wherein said allocating and configuring are performed dynamically.